CONCEALED

ACCIDENTAL HÆMORRHAGE.

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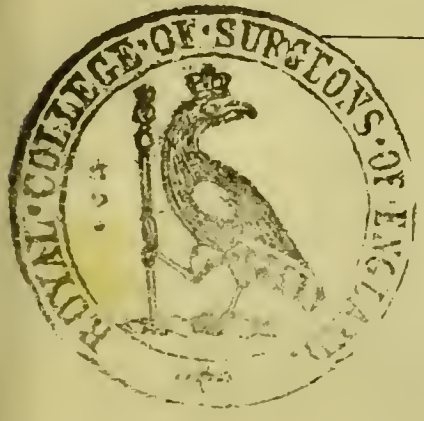

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I PROPOSE to address you upon a rare and very fatal complication of pregnancy, to which the appropriate name of "Concealed Accidental Hæmorrhage" has been given by Dr. Braxton Hicks. That name sufficiently imports the nature of the complication; but probably, until it is pointed out, one is not prepared to find that the symptoms to which retention of the discharge gives rise differ essentially in mode of occurrence, in kind, and in danger, from those of accidental hæmorrhage of the ordinary sort. Yet such is the case. In the latter hæmorrhage the symptoms which arise are those of hæmorrhage simply; and as on the one hand a little accidental hæmorrhage is not uncommon in the course of ordinary labour, so, on the other, the patient does not suffer in that case except in proportion to the amount of loss. But when the discharge is concealed it is a widely different matter. In the first place, although the cause of the hæmorrhage is similar, it is not identical. There is separation of the placenta, it is true; but the separation is what has been called a central separation—that is, the attachment of the organ to the

uterus by its rim remains intact, the effusion being confined between it and the adjacent part of the uterus, and hence *concealed.* Thus it is plain that the amount of hæmorrhage which can occur at this period is but small, and it might even be asked whether (beyond the death of the fœtus and the induction of labour) any symptom of consequence would occur. Yet the result of so small a loss is immediate syncope, which (unless the symptoms be relieved) passes on to collapse, and quickly ends in death. In the meantime the case is obscure; very often collapse is the only obvious symptom, although pain is sometimes added; and frequently the case bears the closest possible resemblance to one of laceration of the uterus. The remedy lies in taking those steps which will most speedily ensure delivery; every moment of delay adds immeasurably to the patient's already imminent danger, and it appears that nature is not able to accomplish much under these circumstances, for if delivery be unassisted the patient will die. I will first of all show you that the subject has been rarely discussed.

In 1860 Dr. Hicks read a paper before the Obstetrical Society of London, in which he stated that after a lengthened search he had, up to that date, been able to find reports of fifteen cases only, and among them were three—the only cases which had occurred among twenty-two thousand consecutive labours attended in the maternity department of Guy's Hospital. To these fifteen cases he added seven, up to that time unpublished, and collected by him from private sources, together with the one he himself had witnessed, and which was the occasion of his essay. In 1868 three more cases were reported to the same society by different Fellows.

Next, in 1870, Dr. Goodell, of New York, published a paper in which the literature of this subject is exhaustively summarised; and although he fully concurs in the general belief that such cases are extremely rare, he has yet succeeded in collecting as many as 106 from various sources, where they were often detected under other names, or, no post-mortem examination having been made, were recorded simply as obscure cases of sudden and fatal illness during pregnancy. Many of them were supposed to be cases of spontaneous rupture of the uterus, to which, as I have said, concealed accidental hæmorrhage bears a close resemblance; and I propose presently to endeavour to point out some of the signs by which one accident may be distinguished from the other in doubtful cases. It was only by indefatigable industry, and a labour which those only can properly estimate who have been engaged in similar research, that Dr. Goodell was able to collect so many examples. But in proof of the rarity of the subject, I will repeat some facts which he cites to the same end. Mesdames Boivin and Lachapelle denied the possibility of concealed accidental hæmorrhage. So did Velpeau. Blundell, Churchill, Cazeaux, and Burns never saw a single case. Lastly, to adopt Dr. Goodell's own words, the manner in which this complication is spoken of in every work upon obstetrics, except that of F. Ramsbotham, is historical, and not clinical. What Dr. Goodell wrote in 1870 still holds good. There is indeed in the last published System of Midwifery a scant description of the symptoms of concealed accidental hæmorrhage; but it has not received, as so obscure a complication deserves to receive, a separate section to itself, and the directions for treatment are mingled with those for the treatment

of ordinary accidental hæmorrhage, if indeed it can be said that any distinction between the two is made.

In 1875 Dr. Brunton communicated to the *Obstetrical Journal* of Great Britain an account of five cases of this kind with which he had himself met, and to the above cases I now add the one which I am about to repeat to you. In showing the fact of its rarity, and in asserting that no adequate description of this complication of pregnancy is to be found in any English work upon obstetric medicine, little or no reference to it being made in most of them, I trust I have shown, too, that the subject may not unprofitably occupy our attention this evening.

Case.—A tall, thin, large-boned woman of lymphatic temperament was seized with pain at about two weeks previous to the termination of her seventh pregnancy. She had not suffered any shock. At five o'clock in the evening she began to suffer from "cutting" abdominal pain, which, though somewhat different from that usually suffered at the beginning of labour, was not distinctive enough to alarm her. At nine o'clock she was found apparently in the early stage of a normal labour. She made no unusual complaint, presented no unusual appearance, and was experiencing slight throes every few minutes. The os was about an inch in diameter, thick, and a little hard; the membranes were entire and the vertex presenting. At ten o'clock I found her lying on her back; and I was informed by the nurse that my presence was desired not so much on account of the progress of the labour as shown by the throes (which were not severe) as on account of the complaints of persistent pain which the patient constantly made. I desired her to turn over on her side,

which she promised to do as soon as her pain went off, and I therefore sat down to wait a few minutes. I soon perceived that she was suffering from continuous pain, to which every now and then a feeble throe was added, and I therefore hastened to make a vaginal examination. I found that there was a trifling external hæmorrhage, including a small clot of about half an ounce in weight; the os dilated to a diameter of two inches, but still rather unyielding and thick; and the membranes extremely tense. Prolonging the examination during two throes, I observed that the membranes maintained a uniform tenseness, and on examining the uterus externally, I found that it too was curiously hard, well defined, and incompressible; that it was impossible to make out the fœtus through it, and that it was extremely tender. The patient continued her constant complaint; she was pale, restless, and anxious, though far from collapsed, and the pulse rose to 120, at the same time that it became very feeble. On recognising these symptoms it was not difficult to diagnose the existence of that kind of hæmorrhage known as the "concealed accidental."

Being careful, in the first place, *not* to rupture the membranes, a large dose of brandy and ergot was given, and dilatation of the os assisted as far as possible by the finger. It yielded more rapidly than I expected; the membranes began to protrude a little into the vagina—but not much, for they always remained tense—and at last they broke, a small quantity of colourless *liquor amnii* escaping. The head immediately occupied the os, and three fair throes ensuing at short intervals, the child was expelled. Assisting the delivery with the left hand, I followed the uterus down as it

contracted with the right, and as soon as the child emerged a little pressure immediately expelled the placenta, together with a large quantity of blood, both fluid and clotted. The child was dead, but not blanched; the placenta was normal in appearance, but showed evidence of its separation in a thin pellicle of clot spread over nearly its whole surface; it was without the central depression frequently observed in such cases. The discharge consisted of about one pound of fluid blood, and one and a-half pounds of clotted blood, of which the greater part was very firm and solid. The uterus contracted well, and altogether there was not more than half-a-pint of post-partum hæmorrhage; yet the patient, who for about five minutes after delivery had appeared pretty well, soon passed into collapse. Dr. Brunton, for whom I had previously sent, now arrived, and by our united exertions we succeeded in saving the patient after she had shown the various symptoms usually attendant upon severe hæmorrhage—paleness, coldness, restlessness, disturbance of vision, incoherent muttering, vomiting, intermittence and temporary failure of the heart's action, and the rest; from which repeated doses of egg and brandy, sinapisms, warmth to the extremities, and so forth, recovered her after about an hour and a-half. The pulse was carefully watched the whole time, and presented the following phenomena at minutes after delivery:—5 minutes, 120, fair, irregular (irregularity of the pulse is frequently observed after normal delivery, continuing for a considerable time); 20 minutes, 126, large, soft, feeble; 25 minutes, 112; 30 minutes, 108, a little firmer, but intermitting every fourth beat; 45 minutes, 80, very soft and large again, intermittent (vomiting began); 50 minutes, 78, still intermitting;

55 minutes, 72, of bad quality, but not intermittent; 80 minutes, 93, and normal—that is, though irregular, almost recovered in point of apparent force and tension.

She then slept for five minutes, and woke up again very much better, and with a more natural appearance. She took milk, egg, and brandy, and an hour and a-half afterwards was found with a pulse of 64, very small and weak, not quite so well as at the last observation, but safe for the time. Twelve hours afterwards she was pretty well, with a pulse of 120, of fair quality, and she made a good recovery.

From what I have already said, it may be thought that this subject has been sufficiently handled of late to render any further discussion of the symptoms and treatment unnecessary; yet I believe it still remains to write a classical description of a case of accidental concealed hæmorrhage. This I do not propose to attempt; but to examine the various symptoms with a view of ascertaining what, if any, are really diagnostic, and of arranging them in their order of frequency and of occurrence. It remains also to settle a line of treatment to be pursued, for some difference of opinion exists upon a point which, barely stated, may appear trivial, but which is, in fact, of great importance—the time of rupturing the membranes.

The chief symptoms of Accidental Concealed Hæmorrhage are seven in number, viz.:—1. Faintness or syncope, and collapse. 2. Constant uterine pain. 3. Deficiency of the throes. 4. Tenseness of the membranes. 5. Persistence of this tenseness between the throes. 6. Alteration of the uterine tumour in (A) shape, (B) size, (C) quality. 7. Tenderness of it. These symptoms were all present in my own case, which was therefore a par-

ticularly clear one, and I shall consider them in the order in which they are set down. For statistical corroboration of any assertion I may make I shall depend upon an analysis of thirty-three cases which I have made, comprising Dr. Hicks' twenty-three, the eight others to which I have referred, my own, and one from the *New York Medical Journal* for 1848, upon which I fell by chance. Occasionally I shall refer to Dr. Goodell's cases, among which the last is included.

Faintness or syncope is the constant symptom of the onset of this kind of hæmorrhage. It is constant because it does not depend upon the amount of blood effused. If it were a truly hæmorrhagic syncope it would be absent in those cases in which the effusion was small in quantity. Case 2 is a striking example. The total effusion was no more than half a pound; yet the patient was taken with sudden syncope, rapidly became collapsed, and died quickly. Case No. 33 is no less remarkable; for the same sequence of events was observed, although the total effusion was only 17 oz. In Cases 25 and 26 (in both of which the patients died) the effusion was a pound and a-half and from that quantity to two pounds respectively. When there are repeated effusions the patient may faint under the first, and recover for two or three days, and then succumb to a second attack. Such are cases 13 and 25. This syncope runs on to collapse in every case, but sometimes there is no noticeable stage of mere fainting, and sometimes on the other hand collapse only sets in after delivery. My own case is an example of this, and case 24 is another. A comparison of the whole number shows that in seventeen collapse supervened upon the accident at once, or set in with great rapidity; while in

fourteen it advanced slowly ; in the remaining two not occurring until after delivery. Fainting at the onset and collapse at some period or another, but most often at an early period seem, then, to be constant, and therefore essential, symptoms of this accident. Vomiting, diarrhœa, colic, and tympanitis, are occasionally attendants upon this symptom, just as they are upon collapse from other causes—rupture of the uterus especially. But they are not frequent symptoms, and would require but little notice here were it not that occasionally they have been (after the fainting) the only prominent symptoms, thus leading to their being mistaken for the primary disease. Dr. Goodell's own case is a noteworthy example of this. He says that even now he is unable to say whether the vomiting were the cause or the effect of the hæmorrhage. Of course vomiting, like any other sudden and violent muscular exertion, may separate the placenta ; and for that reason its occurrence during pregnancy is always looked upon with apprehension if it be violent. As a symptom of internal hæmorrhage, alone it is of no value. It may, on the other hand, act as a very serious obstacle to the diagnosis of a doubtful case, and most especially if it should be accompanied by colic and meteorism, for both of these are not infrequent concomitants of rupture of the uterus.

Since the small quantities of blood above described are not sufficient to have caused collapse (and much less therefore the death of the patient), from hæmorrhage, it becomes necessary to look for some other explanation of these events. It is to be found, I believe, in the sudden tension to which the uterine wall is subjected. Yet it appears from the circumstances of some of these cases that the walls of the uterus are dilatable with ease ; that

is to say, that being filled with the entire ovum, yet an "enormous"—such is the term used—an enormous quantity of blood was found within it in addition, after death. It is still not plain, therefore, how half a pound of blood could exert pressure enough to cause serious distress. Accordingly it will be found that all those cases in which a comparatively small effusion caused *sudden* collapse were cases in which the blood was confined between the placenta and the adjacent portion of the uterus; the centre of the former alone being separated, a sac was thus formed of such capacity that to accommodate even a small clot the uterus must have given way to an extent disproportionate perhaps, at that particular part, to the distension it suffers when there is a larger effusion spread over a wider surface. In these cases the placental tissue is found hollowed out, or flattened and condensed, or sometimes even ruptured by the pressure. It is the stretching of the uterus which in all cases conduces to collapse, and in some, in which the hæmorrhage is inconsiderable, causes it; and that is the reason that collapse is a constant symptom of concealed hæmorrhage.

Stretching of the uterus, or a part of it, which is competent to cause collapse, must also in every case cause pain too. This is the second symptom of concealed hæmorrhage. In addition, this pain bears a particular character in that it is a *constant* pain—continuous and quite independent of the throes, although it is aggravated by them. It was its continuousness which first attracted my attention in my own case.

In every case of the thirty-three which I have analysed in which any positive note is made upon this point, with only one exception, pain was present—that

is to say, in twenty of them. This statement coincides exactly with that which Dr. Goodell makes—wherever anything is said about pain it is noted to have been present. And I think his farther remark may be endorsed—that in that case in which it is clearly stated there was no pain it is probable the attendant arrived after collapse had occurred, when every symptom dependent on the sensations of the patient was necessarily absent. The obvious cause of the pain makes it probable also that that symptom was present in those cases in which nothing, either one way or the other, is said about it. So again, with regard to the continuous character of the pain, I find that in every one of the twenty in which its character is referred to at all—that is, in sixteen—it is said to have been constant; and we are warranted in inferring that had it been observed it would have been found constant in the remaining four. I am therefore inclined to consider continuous pain as a constant symptom, and therefore an essential symptom of this form of hæmorrhage, depending as it does upon the same cause as those other constant symptoms syncope and collapse; the last-named condition alone being competent to hide the pain, as above remarked. The seat of this pain is of course the uterus, but it is not always referred to that part by the patient. It is sometimes felt in other parts of the body as well—the back and hips, and in one or two cases it has been referred to these parts alone. It is very frequently described by the patient by that term which one would expect upon a knowledge of its cause—as a bursting pain; eight out of twenty used this term. When the patient volunteers that she feels as "though she would burst," that expression affords a diagnostic between the pain ensuing

on rupture of the uterus and that under consideration. But often the patient describes it in other ways; my own patient called it a tearing or cutting pain, and objected at once to its being called "bursting." In that case the pain comes nearer in kind to that which follows on rupture, but its diffusion over the whole uterus and indeed its severity too are points of difference between it and the latter. Occasionally tenderness of the uterus is noted, and that is another symptom which I feel inclined to think ought to have been noted much oftener than is the case. Tenderness is said to have been present in but five of the thirty-three cases. But it is over-distension which causes the continuous pain; and, since the uterus is filled with contents which are in great part fluid, pressure upon any part of it must cause such an increase of pressure at every part of it as shall increase the pain too. Tenderness is "pain upon pressure;" hence I think that tenderness would have been oftener observed had it been looked for.

The feebleness or absence of uterine contraction is another sign which may be regarded as constant. Most often, as I have before observed, if not invariably, this kind of hæmorrhage precedes labour; it excites labour, much as the injection of warm water between the uterus and membranes excites it. Hence in some cases it will be found that the throes are absent because labour has not begun. Should the case be watched for a time, it will presently be observed that some feeble throes are superadded to the continuous pain. They may recur with regularity, yet they are always very slight, and appear to gain nothing in force as time goes on; nevertheless, for the same reason that the uterus is tender they may cause excruciating accessions of pain, and so

simulate those throes attendant on rupture which are said to be excruciating. Two causes are in operation in these cases to diminish the uterine action; they are, over-distension of the uterus, and collapse. Upon the former I need scarcely make any observation. But I may remark that there is nothing so inimical to uterine contraction as collapse; and that is best illustrated by a reference to uterine action in cases of rupture. In the case of that accident—upon which it is commonly asserted that the throes stop abruptly—I have recently shown* that (subject to evacuation of the organ either by the natural channels or into the abdomen) the force and frequency of the throes vary in an inverse proportion to the amount of collapse, invariably. It will therefore fall to be considered, in discussing the best method of treatment, how far rupture of the membranes may be depended upon to overcome, not only the paralysis of over-distension, but the collapse which results from it as well. In diagnosing a case, then, in which the throes are absent, consider whether the collapse be such as will account for their absence; for, if it be not, there is some other cause at work which is not a mere rupture. That, *per se*, has no influence over the uterine contractions. Yet another point of differential diagnosis may be mentioned here, and that is, the almost invariable occurrence of the symptoms of this kind of hæmorrhage before labour sets in. Without denying that laceration of the gravid uterus does occasionally occur before labour, yet that is a very rare circumstance; and unless direct violence have been inflicted, it is far more probable in any given case that hæmorrhage, and not rup-

* *Obstetrical Journal of Great Britain*, January, February, March, 1876.

ture, is at the bottom of the train of obscure symptoms which has attracted attention.

Although the throes are absent, that does not prevent a very thorough and speedy dilatation of the os, such as is witnessed in many a normal labour before a single expulsive pain has been experienced. The hæmorrhage and the collapse both favour this relaxation of the lowest zone of the uterus, and afford, indeed, the only advantage which can be taken in dealing with these cases. Even in examples in which the os has been but partly dilated, when the membranes were ruptured its expansion has been completed under comparatively feeble pains in a truly surprising manner. This is a most important point to recollect in treatment.

I have now passed in review those symptoms which are either constant, or which, while they are admittedly very frequent, their cause renders probable are constant, but have in the confusion naturally attendant upon such rare, obscure, and alarming cases, been sometimes overlooked. I now arrive at symptoms which are not constant and not essential. The first of these is continuous tenseness of the membranes; that is to say that they feel between the throes just as the bag of waters generally feels during a throe in an ordinary case; while during a throe little or no difference in the tension can be detected. This symptom is noted but five times in my series of thirty-three; and Dr. Goodell remarks of it, that although some writers have contended that it should always be present, yet it was actually observed but eight times in his hundred and six cases. In eleven of my cases no note is made as to the state of the membranes; in three they were found ruptured on the first examination; in one they were found flaccid—a case to

which I will again refer. There are therefore eighteen cases left, of which five—or about 27·8 per cent.—afforded tenseness of the membranes. I quite agree with those writers to whom Dr. Goodell refers, in thinking that this symptom should and might be observed more frequently than is the case; but not invariably, for a reason which the case I have just referred to (in which the membranes were flaccid) illustrates. Indeed, if the five examples which I offer be examined, it will be found that they include all those in my series which occurred under the hands of specially skilled observers—of persons specially prepared to note all the symptoms from a previous knowledge of them; and *vice versa*, wherever a case in my list has been under the care of such an accoucheur, this symptom has been noted. Dr. Hicks' own case must be excepted, for he found the membranes ruptured on examination. But Dr. Goodell found the membranes tense in his case; so did Dr. Brunton in his first case, his second case, and in his fourth case. In his third case the hæmorrhage was more properly accidental hæmorrhage, concealed only by the position of the child's head in the pelvis; while in his fifth the membranes were already ruptured. So in my own case. Having recently perused Dr. Brunton's paper on this subject, I was much better prepared to make observations in the kind of case than I otherwise should have been—very fortunately for the patient; and I did at once observe uniform tenseness of the membranes. Hence I think that this symptom ought to be observed somewhat frequently. If the membranes are ruptured, that, of course, precludes the possibility; but there is another circumstance which prevents this symptom from showing itself. In Case 7

the membranes are particularly noted to have been flaccid. It was under the care of Dr. Oldham. The effusion was not small in quantity, but the solid clot was small—and it is that which causes the symptoms, and which is poured out before the ovum is otherwise disturbed. That is not the reason, however, that the membranes were not found tense. What was the state of the placenta upon examination? It was found hollowed out, condensed, *cupped* by the hæmorrhage; that is to say, the case was one of those in which the hæmorrhage is entirely retained between the placenta and the uterine wall. Thus, if the placental detachment be a central detachment, and the hæmorrhage confined by the edges of the organ, the membranes will not be found tense. If the eighteen cases in which note of the membranes was made, and of which I stated 27·8 per cent. offered tense membranes, be again examined with regard to this point, it will be found that in ten of them the placenta was either entirely attached by its rim and hollowed, or only detached to a very small extent and flattened. Hence, expertness and knowledge apart, the membranes were but seldom found to be tense, for a definite reason.

Persistence of this tenseness between the throes I have set down as a fifth symptom of this condition. It is a necessary consequence of the manner in which it is caused in the five cases noted; but it is, I believe, a pathognomonic symptom, and as such entitled to a separate place in the list. This condition affords yet another sign by which an obscure case may be distinguished from one of laceration of the uterus; for although that accident may happen before labour, and therefore while the ovum is entire, I have not yet met in the course of

a rather long search with one case of rupture in which, upon examination, the membranes *remained* entire. The uterus, when it breaks spontaneously before labour sets in, does so from a sudden and violent contraction, which may be excited by any mental emotion; and the fact of its being filled with fluid which cannot escape (for the os is still closed) submits its walls to a hydrostatic pressure which they cannot withstand. But I do not know that the membranes ever, after rupture in this or any other way, remain entire; and that in a doubtful case should serve to exclude rupture from our diagnosis.

The sixth symptom to which I wish to direct your attention is alteration in the uterine tumour in shape, size, or quality. It is liable to be altered in shape very distinctly when the placental detachment is central. In that case the distension of the uterine wall gives rise to a tumour which may be felt to project distinctly from one side of the uterus. Such was the case in Case 18, in which it is said the tumour was extremely tender, and became harder during a pain. The placenta was found to be basin-shaped, and to contain a large recent clot. In this instance Dr. Priestley, under whose care the case was, suspected that the uterus was ruptured, and that the tumour might be a part of the fœtus protruding through the rent, so much did the symptoms resemble those of that injury. This kind of swelling is seldom recorded. Very often the uterus is said to have been distended at the fundus—eight times out of thirteen in which anything is said about the shape of the uterus. Together with this alteration it becomes altered in consistency, the alteration being towards hardness. In one case, indeed, it is said, though enormously distended, to

have felt "doughy." The following sentences are the author's own:—"The abdomen was very tense, the uterus feeling doughy, being distended to the utmost." I do not know what to make of that description. All these alterations are quite incompatible with rupture of the uterus. In that injury the organ does not increase in size, nor does it alter from the normal in its consistency. It is subject to the same alternations of hardness and relaxation which are observed under ordinary conditions of labour, unless, indeed, the throes should entirely cease, in which case the uterus is not hard, of course, but soft. So in the case of the local swelling; if the abdominal walls be thin enough to allow of a thorough palpation of it, then the absence of any part of the fœtus in it affords the best evidence that that is still within the uterus. But its alternate hardening and relaxation must evidently be owing to uterine tissue still stretched over the tumour; and its tenderness—which will be observed at every part—shows that it is not a gap allowing of the protrusion of a body not sensitive, but that it is a swelling of some part of the mother, who cries out when it is touched—that is, of the uterus.

Lastly comes tenderness of the uterus, upon which I have already remarked. This will be felt, unless the hæmorrhage be circumscribed, as in the case last described, over the whole uterus. In considering this symptom with regard to rupture, it will be remembered that in the kind of case I am considering the cause of pain is seated within the uterus, and is there confined to it; while in rupture its cavity communicates with the abdomen, in the whole of which it is not uncommon to find pain complained of, while the uterus itself yields none.

To these symptoms one or two others might be added.

If the placenta be largely separated the fœtus must die. But the recorded cases throw no light upon the diminution of the placental murmur and cessation of the fœtal pulsations which would result. Dr. Goodell has suggested that in such cases as those in which the membranes remain unruptured some aid to diagnosis might be gained from a discharge of serum squeezed from the clot effused; for the serum will penetrate where the blood itself will not. He observed this symptom himself; but I do not know that it has been put to any practical use by any other person.

I have thus gone over the symptoms of concealed accidental hæmorrhage with a view of ascertaining in what degree of frequency they may be expected to arise. And I believe I have shown that sudden syncope and collapse, feeble or absent throes, and continuous pain are constant symptoms, while persistent tenseness of the membranes will show itself except under certain well defined conditions of the mode of hæmorrhage; alteration in the abdominal tumour being a still less frequent symptom, which, though it may sometimes occasion some difficulty in diagnosis, does on the other hand sometimes afford a means whereby this accident may unerringly be distinguished from any other; and that this sign may be expected to offer its assistance pretty frequently.

To recapitulate. I would propose to describe concealed accidental hæmorrhage as a uterine hæmorrhage occurring only during pregnancy; arising before labour; sometimes entirely confined between the placenta and the uterus, generally entirely confined by the uterus, but occasionally attended by a little external hæmorrhage; and, irrespective of its amount, suddenly threat-

ening life from shock to the system. To this I would add that accidental hæmorrhage is properly considered to be *concealed*, notwithstanding there may be some external show, whenever the symptoms are such as the amount of the latter does not serve to account for. Its symptoms are and arise as follows: The patient being at, but more often only near, the full term of pregnancy, experiences some shock, such as would usually cause separation of the placenta and accidental hæmorrhage of the ordinary kind. For instance, she makes some sudden or violent or unaccustomed use of her muscles; as when stumbling or slipping in walking, or by dancing, by pumping, hewing wood, suddenly lifting a heavy weight, or coughing, or from mental emotion. Upon some such occasion she becomes suddenly faint. From such faintness she may recover to succumb to a second attack in a day or two. More often the fainting is prolonged; she experiences an uneasy sensation in the abdomen, and shortly passes into collapse. She is now in danger of speedy death, yet she is seldom unconscious. The sensation of uneasiness becomes a sensation of constant pain, which she refers to the uterus, but sometimes to other parts as well; she will very likely describe it as a bursting pain, and will always regard it as intolerable, either from its continuousness or from its severity. Meantime there is no sign of labour. On examining the abdomen the uterus may be found enlarged; but in any case it will be found hardened, well defined, and incompressible; in addition, it will be tender. A vaginal examination will still find the os uteri closed. Upon this feeble throes will supervene; the os will dilate a little, and will now upon examination be found soft and dilatable to the full extent. Although the throes

will cause excruciating pain, they will be found to have but the slightest effect upon the membranes. These are often found continuously tense, in correspondence with the tenseness of the uterus itself, and with the constant pain. If now—at a favourable time with regard to the state of the os—the membranes be ruptured, the pains will at once gain in force, and the os will dilate and allow the passage of the fœtal head with surprising rapidity. Delivery of the child will be immediately followed by a large quantity of blood, both fluid and clotted. The latter was the first effused, and was the cause of the symptoms; the former was poured out, possibly at an early stage also; but, generally, as soon as the ovum is disturbed by the rupture of its membranes and the passage of the child towards the world; sometimes immediately subsequent to its birth. On examination the placenta may be found compressed at its centre—cup-shaped, or compressed or condensed at some parts only, from the pressure to which the earlier effusions have subjected it; but it is not always affected in that way. Subsequent to delivery the patient is in increased danger of death; if she were not completely collapsed before, she now becomes so; if she were already collapsed, she suffers yet a farther shock in the rapid evacuation of her over-distended uterus; and she is very likely to die of a comparatively trifling farther hæmorrhage. About half of the hitherto recorded cases of accidental concealed hæmorrhage have terminated fatally.

It will be at once apparent from the statement last made that the treatment of these cases is a most important matter; except under proper management there is but little chance of escape for the subject of this

accident. Dr. Hicks, in discussing it, observes that no doubt that treatment which is proper to ordinary accidental hæmorrhage is proper to concealed hæmorrhage; but, he adds, "how far the particular part of that treatment, namely, rupture of the membranes, can be relied on, cannot be gathered by the details now before us, for in them we find that in nearly the whole of those that died the membranes had been ruptured. Whether any of the seven who recovered would have died had it not been done it is impossible to tell." Well, this point of rupturing the membranes is the only point almost on which the accoucheur can actively interfere, and it is that, therefore, with which I shall chiefly concern myself. But I do not propose to examine this question statistically. In a case of this kind such a mode is useless, as Dr. Hicks himself shows. I shall therefore discuss it on general principles. Our object should be to *evacuate the uterus as speedily as possible;* and in the best way of doing this rupture of the membranes is involved. To over-distension of the uterus the grave primary symptoms—which include paralysis of the uterine walls from that cause—are owing; how far may we fairly expect to relieve them by relieving their cause? What effect in permitting uterine action to a uterus paralysed by over-distension has the relief to it which discharge of the waters effects? What danger is there in discharging the waters, in breaking up the ovum—of dislodging such clot as may be occluding the gaping uterine sinuses? These and similar questions are those which will at once suggest themselves in undertaking the treatment of a case of concealed hæmorrhage; it will be well to have answered them already, and to be prepared to act at once upon the emergency.

On the whole, the treatment proposed by Dr. Hicks is not laid down in any very precise manner, beyond the assertion that the indication is to empty the uterus. It is, however, stated plainly enough that, since rupture of the membranes tends to hasten labour, they should *always be ruptured at once*, if they are not already broken; but should the patient be completely collapsed, it will be better, *after rupturing the membranes*, to administer stimulants and wait a little, than to empty the uterus immediately, supposing the state of the os to admit of that being done. From this practice, inculcated in these general terms, Dr. Brunton dissents, on the ground that rupture of the membranes does not always tend to expedite labour. And unless the os uteri be either fully dilated or else very nearly dilated, and with the head pressing well down upon it, there is no doubt that rupture of the membranes does retard the first stage of labour. Dr. Brunton then proceeds to point out that, to some extent, at all events, the amount of hæmorrhage must be controlled by the presence of the entire ovum within the uterus; and that it is worse than useless to dislodge this natural plug by evacuating the liquor amnii, unless the *whole* of the ovum can be removed at the same time. To this it may be added that, more precisely speaking, this danger is special to this kind of hæmorrhage. For, in revealed accidental hæmorrhage rupture of the membranes permits the uterus to contract, and so lessens the area of the bleeding surface *pari passu*. But frequently the hæmorrhage in these cases is entirely confined by the adherent edge of the placenta; and in that case to remove the support which the entire ovum affords would be but to permit a farther bulging of the

placenta inwards—that is, a farther hæmorrhage and a more profund collapse. Now, in dealing with a case of this kind, what I have before stated with regard to the absence of uterine contractions will be remembered; that it is in part owing to over distension, but in a measure—and probably in a great measure, to the collapse. Our first step should therefore be to remedy the collapse; and in whatever danger the patient may be—however imminent death may appear—I think that on the one hand we shall not be wrong in considering that danger due to things which *have* happened, not, that is, to hæmorrhage which is continuing; while, on the other, we must not forget that in these cases "more haste less speed" is a proverb very applicable; that the evacuation of the uterus if effected will be thorough and complete, fœtus, placenta, and hæmorrhage coming away together, and the patient therefore being exposed to a fresh source of depression, of which, as I have shown, she is now particularly susceptible. Supposing, then, that the membranes be found unruptured, and the os uteri moderately dilated, the patient being collapsed and all uterine contraction, of course, absent. I should under these circumstances be inclined, in the first place, to administer stimulants, which should include food of some kind; and in order to produce a rapid effect, the intravenous injection of ammonia might perhaps, notwithstanding its effect in lessening coagulability of the blood, be useful. To this an irritant applied to the præcordium may be added; and on account of the immediate effect upon the heart's action which raw spirit has in passing down the œsophagus, that too should be given. At all events, whatever means be employed, a reasonable time may be spent, in the first place, in com-

bating the collapse. Next, the abdomen should be encircled by a bandage, which should not be fixed, but left so that one end may be pulled tight as occasion demands—the attendant's knee at once fixing the nethermost end of it and the patient's loins. Thirdly, the patient should be so arranged that the head *and heart* are decidedly below the level of the rest of the body. It will now be time to consider whether or no the membranes should be ruptured. Here it should be remembered that in many cases in which the os was upon examination only partially dilated labour was very rapidly completed upon rupture of the membranes; the collapse had favoured its passive dilatation. Therefore, if there be the least sign of recurrent throes, the liquor amnii may be discharged, and the bandage tightened. But, should the throes not supervene, and the patient's condition become worse, as it certainly will until she is delivered, the forceps (already at hand) must be applied; and, in using them, the ease with which the os may be dilated in these cases may be borne in mind. Extraction being nearly completed, it will be remembered that the uterus in contracting has by this entirely separated the placenta, and the hand should therefore supplant the bandage, which, while the uterus was well distended, gave support enough. Upon the exit of the child firm pressure to the uterus should be continued, and the placenta, with a greater or less amount of discharge, will follow at once. The attendants should at once remove the child, so that the accoucheur is left entirely free to control the uterus and to minister to the patient, who will now demand his entire and unremitting attention.

But it is noted in many cases that the os remained closed after the accession of alarming symptoms; and

of those cases, all those who were undelivered died. In a word, the longer treatment is delayed, the worse will become the patient's condition; hence, with a view of rendering an early diagnosis more easy, I have discussed the symptoms as above, separately, and at length. In this case the os must be forcibly dilated, and that speedily; and for the purpose no better means is at hand than Barnes' dilating bags. But for reasons already given, they should be so applied, if possible, as to preserve the membranes entire until the right moment comes for emptying them. I do not know of any case in which they have been used, but, from what has already been stated, it might be expected that the os would yield pretty rapidly.

I have thus far purposely omitted mention of the use of ergot, because it involves a discussion of the comparative merits of version and extraction by the forceps in cases in which the uterus fails to take on action. Dr. Goodell, in discussing the latter point, places the two methods of delivery on a par as regards time, for the following reasons:—That if version be undertaken, probably the whole hand must be passed into the uterus, because the clot and bulging placenta will form a ledge such as would prevent the use of the bi-polar method; and, if the hand can be introduced, so, most often, can the forceps be applied. For my own part, while agreeing in this view, I should be very averse to turning the child unless it were found impracticable to deliver in any other way; for that ledge which would obviate the effect of the small force applicable by the bi-polar method would give way under the greater force used in the ordinary manner; that is, that very disturbance of the clot and placenta would be effected while the uterus

was still unemptied which I should, up to that time, have preserved the membranes entire especially to prevent. Of course, in a case of this kind, in which speedy delivery is the object in view, it must first be ascertained that the pelvis is roomy. If it be contracted, even with great dexterity considerable delay may occur in extracting the head, during which, from the paralysed condition of the uterus, there will be great risk of further hæmorrhage. It is a question, therefore, whether in all but exceptional cases it will not be better to drag the cranium within reach by the forceps, and then, if there be any delay in extraction, to at once lessen its diameter by craniotomy. The convenience of this plan is all that need be considered; for almost invariably the fœtus will be already dead. Upon this view, I should not hesitate to give in the first place a large dose of ergot, which, if it do not operate before delivery has been effected (as is very likely under the condition of collapse), may yet have a favourable effect upon the uterus after delivery.

Should the membranes be found ruptured on the first examination, then the steps to effect delivery above described may be at once taken.

To recapitulate the treatment of concealed accidental hæmorrhage: A short time should be spent in combating collapse, because the absence of uterine contraction is chiefly owing to it, and because the patient requires to be fitted as far as may be for the further shock she will sustain upon complete evacuation of her uterus. The membranes are to be ruptured at a time to be fixed in each particular case; for they are ruptured in order to facilitate delivery; and this will not be effected if they are broken before the os is pretty well dilated—

but on the contrary delivery will be delayed, and the support which the whole ovum affords the partly detached placenta and effused clot at the same time lost. Nevertheless in these cases they may be ruptured earlier than they should be in a normal labour, because the depression is favourable to dilatability. If the attendant have decided in favour of version, then he will not give ergot until that operation be nearly completed; but the use of the forceps, supplemented (if necessary) by craniotomy is to be preferred, because in that way there is less chance of disturbing such clot as may be closing some of the uterine sinuses while the fœtus is already dead. And in that case he will have begun by giving a good dose of ergot, not only with a view of exciting the uterus to contract before delivery, but with a view of keeping up its contractions after delivery. He will also in the first place have got the patient in the position most favourable to continuing the action of a feeble heart. Subsequent to delivery he will be prepared to give his sole and undivided attention to the patient, who is not only now liable to sink under a very small further hæmorrhage, but is sure to become collapsed if that condition have not already supervened. And lastly, because she can stand but a little more loss, he will first of all have made arrangements for injecting that most certain styptic in post-partum hæmorrhage—the perchloride of iron, by means of which that case may be brought to a favourable end which, without it, would probably have terminated fatally.

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